AMENDMENT TO THE CLAIMS

The following claim listing replaces all prior listings and versions of the claims:

LISTING OF CLAIMS

1. (Currently Amended) A Luneberg lens having ~~a single-layer structure or~~ a multilayer structure containing a plurality of layers having different dielectric constants,

wherein the respective structure is produced by mixing a polyolefin resin and/or a derivative thereof with an inorganic filler having a high dielectric constant, the volume ratio of the polyolefin resin and/or the derivative thereof to the filler being 99 to 50:1 to 50, the resulting resin mixture being substantially uniformly cut, adding a foaming agent to the resulting resin mixture and then performing preliminary expansion, and molding the resulting pre-expanded beads;

[[and]] wherein at least a foamed dielectric layer having a dielectric constant of 1.5 or more is formed using the pre-expanded beads that have been classified by gravity separation such that f(A) satisfies the expression $0.0005 \leq f(A) \leq 0.1$, where f(A) is represented by the equation: $f(A) = \sigma a/Aave$, σa is the deviation of a gas volume fraction Ar in the foamed dielectric layer, and Aave is the average of the gas volume fractions Ars at positions in the foamed dielectric layer, and

wherein small beads are used for forming an inner layer of the lens, and large beads are used for forming an outer layer of the lens.

2. (Previously Presented) The Luneberg lens according to claim 1, wherein the inorganic filler having a high dielectric constant comprises a titanate.

3. (Original) The Luneberg lens according to claim 2, wherein the titanate is barium titanate, strontium titanate, calcium titanate, or magnesium titanate.

4. (Cancelled)

5. (Withdrawn) A method of producing a Luneberg lens that satisfies the requirements described in claim 1, comprising the steps of:

mixing a polyolefin resin and/or a derivative thereof with an inorganic filler having a high dielectric constant, the volume ratio of the polyolefin resin and/or the derivative thereof to the filler being 99 to 50:1 to 50;

adding a foaming agent to the resulting resin mixture and then performing pre-expansion;

classifying and selecting the resulting pre-expanded beads by gravity separation or size classification; and

forming the classified and selected pre-expanded beads into a shape.

6. (Currently Amended) A Luneberg lens having ~~a single-layer structure or~~ a multilayer structure containing a plurality of layers having different dielectric constants,

wherein the respective structure is produced by mixing a polyolefin resin and/or a derivative thereof with an inorganic filler having a high dielectric constant, the volume ratio of the polyolefin resin and/or the derivative thereof to the filler being 99 to 50:1 to 50, the resulting resin mixture being substantially uniformly cut, adding a foaming agent to the resulting resin mixture and then performing preliminary expansion, and molding the resulting pre-expanded

beads on condition that the concentration of the inorganic filler is within a range of ±0.5% with reference to the designed concentration; [[and]]

at least a foamed dielectric layer having a dielectric constant of 1.5 or more is formed using the pre-expanded beads that have been classified by gravity separation or size classification such that f(A) satisfies the expression $0.0005 \leq f(A) \leq 0.1$, where f(A) is represented by the equation: $f(A) = \sigma a/Aave$, σa is the deviation of a gas volume fraction Ar in the foamed dielectric layer, and Aave is the average of the gas volume fractions Ars at positions in the foamed dielectric layer; and

small beads are used for forming an inner layer of the lens, and large beads are used for forming an outer layer of the lens.